p1105: Factoring when $a = 1$ (v20)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 + x - 72$

$$(x - 8)(x + 9)$$

2. Factor $x^2 - 11x + 24$

$$(x - 3)(x - 8)$$

3. Factor $x^2 - 5x - 6$

$$(x + 1)(x - 6)$$

4. Factor $x^2 + 8x + 12$

$$(x + 2)(x + 6)$$

5. Factor $x^2 + 14x + 45$

$$(x + 9)(x + 5)$$

6. Factor $x^2 + 6x - 27$

$$(x - 3)(x + 9)$$

7. Factor $x^2 - 10x + 24$

$$(x - 6)(x - 4)$$

8. Factor $x^2 + x - 42$

$$(x - 6)(x + 7)$$

9. Factor $x^2 - 4x + 3$

$$(x - 3)(x - 1)$$

10. Factor $x^2 + x - 20$

$$(x - 4)(x + 5)$$

11. Factor $x^2 - 10x + 16$

$$(x - 2)(x - 8)$$

12. Factor $x^2 - 8x + 7$

$$(x - 7)(x - 1)$$

13. Factor $x^2 - x - 56$

$$(x - 8)(x + 7)$$

14. Factor $x^2 + 2x - 24$

$$(x - 4)(x + 6)$$

15. Factor $x^2 + 3x - 40$

$$(x + 8)(x - 5)$$